

CLAIMS

WE CLAIM:

1. A method of synchronizing data that is maintained at a mobile client
5 and is shared with multiple enterprise data sources, the method comprising:
receiving a request from the mobile client for synchronization of data records
maintained at the mobile client with corresponding data records at the enterprise
data sources, wherein the client request is received at an application server and
includes metadata that identifies enterprise data sources for the requested data
10 records and that specifies a relational correspondence between the requested data;
comparing the mobile client data records and the corresponding data records
of the enterprise data sources to identify any data conflicts between the two sets of
data records;
resolving any identified data conflicts; and
15 updating the mobile client data records in accordance with the relational
correspondence specified by the metadata, and updating corresponding data
records at the application server in accordance with the metadata relational data
correspondence.
- 20 2. A method as defined in claim 1, wherein the received synchronization
request includes an Upload operation request for data changes from the mobile
client to the application server and a Get Latest operation request for data changes
from the application server intended for the mobile client.
- 25 3. A method as defined in claim 2, wherein the Upload operation includes
receiving metadata that determines a corresponding enterprise data source to which
the upload data records should be sent.
4. A method as defined in claim 3, further including applying conflict
30 detection and resolution rules to determine if the upload data from the mobile client

should be stored in the corresponding enterprise data source or if the upload data should be refused.

5 5. A method as defined in claim 1, wherein the identification of any data conflicts includes a conflict detection operation and a conflict determination operation.

10 6. A method as defined in claim 1, wherein resolving data conflicts comprises resolving any conflicts according to either a First Update processing, a Last Update processing, or an Administrative processing.

15 7. A method as defined in claim 1, wherein the metadata for the data records specifies conflict detection and resolution parameters that resolve data conflicts between the mobile client and multiple back end enterprise data sources.

8. An application server that facilitates synchronizing data that is maintained at a mobile client and is shared with multiple enterprise data sources, the application server comprising:

20 a data manager that receives a request from the mobile client for synchronization of data records maintained at the mobile client with corresponding data records at the enterprise data sources, wherein the client request includes metadata that identifies enterprise data sources for the requested data records and that specifies a relational correspondence between the requested data, comparing the mobile client data records and the corresponding data records of the enterprise data sources to identify any data conflicts between the two sets of data records, resolving any identified data conflicts, and updating the mobile client data records in accordance with the relational correspondence specified by the metadata, and updating corresponding data records at the application server in accordance with the metadata relational data correspondence; and

one or more connectors that retrieve the corresponding data records from the enterprise data sources and convert the retrieved data into a relational format that defines the retrieved data from the enterprise data sources, in accordance with the metadata contained in the received request, and that return the converted data to a relational data store on the mobile client.

9. An application server as defined in claim 8, wherein the received synchronization request includes an Upload operation request for data changes from the mobile client to the application server and a Get Latest operation request for data changes from the application server intended for the mobile client.

10. An application server as defined in claim 9, wherein the Upload operation includes receiving metadata that determines a corresponding enterprise data source to which the upload data records should be sent.

11. An application server as defined in claim 10, wherein the application server applies conflict detection and resolution rules to determine if the upload data from the mobile client should be stored in the corresponding enterprise data source or if the upload data should be refused.

12. An application server as defined in claim 8, wherein the application server identifies any data conflicts by performing a conflict detection operation and a conflict determination operation.

13. An application server as defined in claim 8, wherein the application server resolves data conflicts by resolving any conflicts according to either a First Update processing, a Last Update processing, or an Administrative processing.

14. An application server as defined in claim 8, wherein the metadata for the data records specifies conflict detection and resolution parameters that resolve

data conflicts between the mobile client and multiple back end enterprise data sources.

15. A mobile client that processes data from multiple enterprise data sources over a mobile network, the mobile client comprising:

an application that performs data processing functions and generates requests for data;

a data manager that receives data requests from an application server and generates client data requests including metadata that specifies enterprise data to be retrieved and specifies the enterprise data sources from which the data is to be retrieved, wherein the data manager transmits the client data requests over the mobile network, and generates requests for synchronization of data records maintained at the mobile client with corresponding data records at the enterprise data sources, wherein the synchronization requests include metadata that identifies enterprise data sources for the requested data records and that specifies a relational correspondence between the requested data, comparing the mobile client data records and the corresponding data records of the enterprise data sources to identify any data conflicts between the two sets of data records, resolving any identified data conflicts, and updating the mobile client data records in accordance with the relational correspondence specified by the metadata, and updating corresponding data records at the application server in accordance with the metadata relational data correspondence; and

one or more connectors that retrieve the corresponding data records from the enterprise data sources and convert the retrieved data into a relational format that defines the retrieved data from the enterprise data sources, in accordance with the metadata contained in the received request, and that return the converted data to a relational data store on the mobile client.

16. A mobile client as defined in claim 15, wherein the received synchronization request includes an Upload operation request for data changes from

the mobile client to the application server and a Get Latest operation request for data changes from the application server intended for the mobile client.

17. A mobile client as defined in claim 16, wherein the Upload operation
5 includes receiving metadata that determines a corresponding enterprise data source to which the upload data records should be sent.

18. A mobile client as defined in claim 15, wherein the metadata specifies
10 conflict detection operations and conflict determination operations in the event that any data conflicts are identified.

19. A mobile client as defined in claim 15, wherein the metadata from the mobile client specifies how the application server is to resolve data conflicts.

20. A mobile client as defined in claim 19, wherein the metadata from the
15 mobile client specifies how the application server is to resolve any conflicts, according to either a First Update processing, a Last Update processing, or an Administrative processing.

21. A mobile client as defined in claim 15, wherein the metadata for the
20 data records specifies conflict detection and resolution parameters that resolve data conflicts between the mobile client and multiple back end enterprise data sources.